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# 4, 7TH MAIN MALLESWARAM, BANGALORE -3

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-02-21-55** **Date: 12/01/2019**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

**Address** : Shettyhalli Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division

**Agency** : Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023

**Customer's Reference** : EE/DD/WO/272/18-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 07-01-19

**Customer ID** : Side Wall Drain Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 12/01/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Side Wall Drain Concrete | M20 | 05/01/2019 | 12/01/2019 | 149.67 X 149.99 X 150.84 | 22448 | 8.947 | 425.8 | 19.0 | 18.8 |
| 2 | Side Wall Drain Concrete | M20 | 05/01/2019 | 12/01/2019 | 150.79 X 151.75 X 150.57 | 22882 | 8.808 | 429.9 | 18.8 | |
| 3 | Side Wall Drain Concrete | M20 | 05/01/2019 | 12/01/2019 | 149.97 X 151.15 X 150.95 | 22667 | 8.058 | 425.8 | 18.8 | |

**Note:**

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Sig.....
Date.....

Page 1/1
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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-02-21-55** **Date: 02/02/2019**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

**Address** : Shettyhalli Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division

**Agency** : Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023

**Customer's Reference** : EE/DD/WO/272/18-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 07-01-19

**Customer ID** : Side Wall Drain Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 02/02/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Side Wall Drain Concrete | M20 | 05/01/2019 | 02/02/2019 | 149.83 X 151.16 X 151.13 | 22647 | 8.356 | 529.9 | 23.4 | 23.2 |
| 2 | Side Wall Drain Concrete | M20 | 05/01/2019 | 02/02/2019 | 149.18 X 149.34 X 150.12 | 22279 | 8.357 | 508.1 | 22.8 | |
| 3 | Side Wall Drnin Concrete | M20 | 05/01/2019 | 02/02/2019 | 151.82 X 150.97 X 151.68 | 22920 | 8.986 | 537.8 | 23.5 | |

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# TEST REPORT OF PRECAST COVER SLAB

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-02-21-55** **Date: 22-12-18** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 |
| **Customer's Reference** | : | EE/DD/WO/272/18-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 18-12-18 |
| **Sample Type /Size** | : | Precast Cover Slab |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete |
| **Date of test** | : | 18/12/2018 |

| Sl. No. | Identification Mark | Diameter of the core | Height of the core | Weight of the core | Area | Failure Load | Core Compressive strength | Corrected Cylinder Compressive strength | Equivalent Cube Compressive strength |
|---|---|---|---|---|---|---|---|---|---|
| | | (mm) | (mm) | (kg) | (Sq.mm) | (KN) | ($N/mm^2$) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Cover Slab-1 | 200.51 | 250.48 | 2.116 | 31570 | 152.9 | 4.8 | 4.5 | 5.6 |
| 2 | Cover Slab-2 | 200.49 | 250.52 | 2.122 | 31564 | 153.3 | 4.9 | 4.5 | 5.6 |
| 3 | Cover Slab-3 | 200.50 | 250.51 | 2.118 | 31567 | 151.5 | 4.8 | 4.5 | 5.6 |

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-02-21-55** **Date: 08/01/2019**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

**Address** : Shettyhalli Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division

**Agency** : Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023

**Customer's Reference** : EE/DD/WO/272/18-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 03-01-19

**Customer ID** : Side Wall Drain Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 08/01/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Side Wall Drain Concrete | M20 | 01/01/2019 | 08/01/2019 | 149.74 X 149.12 X 149.68 | 22329 | 8.947 | 415.8 | 18.6 | 18.4 |
| 2 | Side Wall Drain Concrete | M20 | 01/01/2019 | 08/01/2019 | 151.02 X 151.55 X 151.97 | 22888 | 8.808 | 416.6 | 18.2 | |
| 3 | Side Wall Drain Concrete | M20 | 01/01/2019 | 08/01/2019 | 151.32 X 150.68 X 149.00 | 22801 | 8.058 | 415.6 | 18.2 | |

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : CP-2019-02-21-55 **Date: 29/01/2019**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

**Address** : Shettyhalli Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division

**Agency** : Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023

**Customer's Reference** : EE/DD/WO/272/18-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 03-01-19

**Customer ID** : Side Wall Drain Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 29/01/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Side Wall Drain Concrete | M20 | 01/01/2019 | 29/01/2019 | 149.58 X 150.39 X 149.16 | 22497 | 8.356 | 537.6 | 23.9 | 23.3 |
| 2 | Side Wall Drain Concrete | M20 | 01/01/2019 | 29/01/2019 | 150.08 X 150.74 X 150.17 | 22623 | 8.357 | 505.0 | 22.3 | |
| 3 | Side Wall Drain Concrete | M20 | 01/01/2019 | 29/01/2019 | 149.27 X 150.16 X 149.89 | 22413 | 8.986 | 527.8 | 23.5 | |

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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-02-21-55** **Date: 14-12-18** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 |
| **Customer's Reference** | : | EE/DD/WO/272/18-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 11-12-18 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 (Part 1,2 3,4,5, 6,11) 1988<br>IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4<br>IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5<br>IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5<br>IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6 |
| **Date of test** | : | 12-12-18 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

| Sl.No. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | Fineness by dry sieving (%) | 1.85 | -- |
| 2 | Finess by Air permeablity method ($m^2$/kg,Min) | 348.6 | 225$m^2$/kg, Min |
| 3 | Density (gm/cc) | 3.15 | -- |
| 4 | Standard Consistency (%) | 28.5% | Not specified |
| 5 | Initial Setting time | 135 minutes | Not less than 30 minutes |
| 6 | Final Setting time | 245 minutes | Not more than 600 minutes |
| 7 | Soundness (Le Chatelier's Method) | 1.5mm | Not more than 10 mm |

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**R. KARTHIK RECHAN**
Authorized Signatory
**Quality Manager**

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# 4, 7TH MAIN MALLESWARAM, BANGALORE -3

Format No: CP/TF/01

## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | | |
|---|---|---|---|
| **Lab ID** | : | CP-2019-02-21-55 | **Date: 09-01-19** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. | |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. | |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division | |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 | |
| **Customer's Reference** | : | EE/DD/WO/272/18-19 | |
| **Source of Sample** | : | Sample supplied by Agency | |
| **Sample Condition** | : | Satisfactory | |
| **Date of Receipt** | : | 11-12-18 | |
| **Sample Type** | : | Birla Super 53grade | |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 6, Determination of Compressive Strength, Clause 6 | |
| **Date of test** | : | 12-12-18 | |
| **Environmental Conditions during test** | : | Temperature:<br>Humidity: | 26°C<br>72% |

**Compressive Strength**

| Sl.No. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | 3 Days | 28.5N/mm$^2$ | Not less than 27 N/mm$^2$ |
| 2 | 7 Days | 39.0N/mm$^2$ | Not less than 37 N/mm$^2$ |
| 3 | 28 Days | 58.5N/mm$^2$ | Not less than 53 N/mm$^2$ |

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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-02-21-55** **Date: 14-12-18** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 |
| **Customer's Reference** | : | EE/DD/WO/272/18-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample condition** | : | Satisfactory |
| **Date of Receipt** | : | 11-12-18 |
| **Sample Type** | : | 40mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 11-12-18 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:**

**Total weight taken : 15000 grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 80mm | 0 | 0 | 0.0 | 100 | 100 |
| 2 | 40 mm | 215 | 215 | 1.4 | 98.6 | 90-100 |
| 3 | 20 mm | 7455 | 7670 | 51.1 | 48.9 | 30-70 |
| 4 | 10 mm | 4266 | 11936 | 79.6 | 20.4 | 10-35 |
| 5 | 4.75 mm | 2844 | 14780 | 98.5 | 1.5 | 0-5 |
| 6 | Pan | 220 | 15000 | 100.0 | 0 | — |

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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2019-02-21-55** **Date: 14-12-18**

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 11.9 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 12.3 | |
| 3 | Specific Gravity | 2.64 | |
| 4 | Bulk Density(Loose) (Kg/l) | 1.41 | |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.47 | |
| 6 | Water Absorption(%) | 0.23 | |

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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-02-21-55** **Date: 13-12-18** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 |
| **Customer Reference** | : | EE/DD/WO/272/18-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 11-12-18 |
| **Sample Type/ Size** | : | 20mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 11-12-18 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:**

**Total weight taken : 5000 grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 40 mm | 0 | 0 | 0 | 100 | 100 |
| 2 | 20 mm | 225 | 225 | 4.5 | 95.5 | 90-100 |
| 3 | 10 mm | 2845 | 3070 | 61.4 | 38.6 | 25-55 |
| 4 | 4.75 mm | 1745 | 4815 | 96.3 | 3.7 | 0-10 |
| 5 | Pan | 185 | 5000 | 100 | 0 | |

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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2019-02-21-55**

**Date: 13-12-18**

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 13.2 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 10.1 | |
| 3 | Specific Gravity | 2.68 | |
| 4 | Bulk Density(Loose) (Kg/l) | 1.43 | |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.49 | |
| 6 | Water Absorption(%) | 0.23 | |
| 7 | Aggregate crushing Value(%) | 22.9 | Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface |
| 8 | Aggregate Impact Value(%) | 23.7 | 30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface |

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**R KARTHIK RECHAN**
Authorized Signature
**Quality Manager**

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# 4, 7TH MAIN MALLESWARAM, BANGALORE -3

Format No: CP/TF/01

# TEST REPORT OF FINE AGGREGATE

**Date: 13-12-18**

| | | |
|---|---|---|
| **Lab ID** | : | CP-2019-02-21-55 |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 |
| **Customer's Reference** | : | EE/DD/WO/272/18-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 11-12-18 |
| **Sample Type** | : | Fine Aggregate |
| **Reference to BIS codes** | : | IS 383 : 2016 (Specification for Coarse and fine Aggregates)<br>IS: 2386 :1963(Part - 1, 3) RA2012<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption |
| **Date of test** | : | 11-12-18 |
| **Total weight taken** | : | 1000 grams |

| Sl.no | Sieve Size | Weight Retained (gms) | Cumulative Weight Retained (gms) | % Cumulative Weight Retained | % Passing | Requirement as per IS 383:2016 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Grading Zone I | Grading Zone II | Grading Zone III | Grading Zone IV |
| 1 | 10 mm | 0 | 0 | 0.0 | 100.0 | 100 | 100 | 100 | 100 |
| 2 | 4.75 mm | 27 | 27 | 2.7 | 97.3 | 90-100 | 90-100 | 90-100 | 95-100 |
| 3 | 2.36 mm | 55 | 82 | 8.2 | 91.8 | 60-95 | 75-100 | 85-100 | 95-100 |
| 4 | 1.18 mm | 239 | 321 | 32.1 | 67.9 | 30-70 | 55-90 | 75-100 | 90-100 |
| 5 | 600 micron | 205 | 526 | 52.6 | 47.4 | 15-34 | 35-59 | 60-79 | 80-100 |
| 6 | 300 micron | 203 | 729 | 72.9 | 27.1 | 5-20 | 8-30 | 12-40 | 15-50 |
| 7 | 150 micron | 191 | 920 | 92.0 | 8.0 | 0-10 | 0-10 | 0-10 | 0-15 |
| 8 | Pan | 80 | 1000 | 100.0 | 0.0 | --- | --- | --- | --- |

**Result :The tested Sample Conforms to Grading Zone II**

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# TEST REPORT OF FINE AGGREGATE

**Lab ID** : **CP-2019-02-21-55**

**Date: 13-12-18**

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS 383:2016 |
|---|---|---|---|
| 1 | Water Absorption(%) | 1.5 | - |
| 2 | Specific Gravity | 2.59 | - |
| 3 | Material finer than 75 micron(%) | 6.6 | Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10% |

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**Quality Manager**

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# TEST RESULTS OF STEEL

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-02-21-55** **Date: 17-12-18** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 |
| **Customer's Reference** | : | EE/DD/WO/272/18-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 15-12-18 |
| **Sample Type** | : | Sunvik |
| **Reference to BIS codes** | : | IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012. |
| **Date of test:** | : | 15-12-18 |

| SLNo | Identification of sample | Grade of the sample | Diameter of the steel bar | Weight of the sample | Yield stress | Tensile strength | Elongation | Bend test | Rebend test |
|---|---|---|---|---|---|---|---|---|---|
| | | | (mm) | (kg/m) | (N/mm2) | (N/mm2) | (%) | | |
| 1 | Sunvik | Fe500 | 8 | 0.391 | 512 | 652 | 20.0% | Satisfactory | Satisfactory |
| 2 | Sunvik | Fe500 | 10 | 0.616 | 528 | 672 | 20.0% | Satisfactory | Satisfactory |
| 3 | Sunvik | Fe500 | 12 | 0.888 | 544 | 668 | 20.0% | Satisfactory | Satisfactory |

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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : CP-2019-02-21-55 **Date: 31/12/2018**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

**Address** : Shettyhalli Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division

**Agency** : Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023

**Customer's Reference** : EE/DD/WO/272/18-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 26-12-18

**Customer ID** : Bottom Slab Drain Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 31/12/2018

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Bottom Slab Drain Concrete | M20 | 24/12/2018 | 31/12/2018 | 151.80 X 149.92 X 151.91 | 22757 | 8.947 | 415.7 | 18.3 | 18.5 |
| 2 | Bottom Slab Drain Concrete | M20 | 24/12/2018 | 31/12/2018 | 149.43 X 150.04 X 149.94 | 22419 | 8.808 | 413.1 | 18.4 | |
| 3 | Bottom Slab Drain Concrete | M20 | 24/12/2018 | 31/12/2018 | 151.23 X 150.58 X 149.40 | 22772 | 8.058 | 430.1 | 18.9 | |

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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-02-21-55** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to Roads and Drains at Kaivarnarayan Swami Temple Surrounding Area K G Hally in Ward No 12 in Shettyhalli Sub Division |
| **Agency** | : | Sri R.Shivaram, #4/13, Avalamma Choultry, Magadi Road, Benagaluru-560023 |
| **Customer's Reference** | : | EE/DD/WO/272/18-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 26-12-18 |
| **Customer ID** | : | Bottom Slab Drain Concrete |
| **Sample Type /Size** | : | 150X150X150 mm |
| **Sample grade/Age** | : | M20 / 28 Days Compressive Strength |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |

**Date: 21/01/2019**

**Date of test** : 21/01/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Bottom Slab Drain Concrete | M20 | 24/12/2018 | 21/01/2019 | 150.58 X 149.85 X 149.64 | 22564 | 8.356 | 519.9 | 23.0 | 23.0 |
| 2 | Bottom Slab Drain Concrete | M20 | 24/12/2018 | 21/01/2019 | 150.57 X 149.69 X 149.57 | 22540 | 8.357 | 496.7 | 22.0 | |
| 3 | Bottom Slab Drain Concrete | M20 | 24/12/2018 | 21/01/2019 | 150.42 X 151.76 X 151.89 | 22827 | 8.986 | 543.5 | 23.8 | |

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